

# **EXHIBIT 7**

**FILED UNDER SEAL**

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**UNITED STATES DISTRICT COURT**  
**NORTHERN DISTRICT OF CALIFORNIA**  
**SAN FRANCISCO DIVISION**

GOOGLE LLC,

Plaintiff,

v.

SONOS, INC.,

Defendant.

CASE NO. 3:20-cv-06754-WHA

Related to CASE NO. 3:21-cv-07559-WHA

**OPENING EXPERT REPORT OF SAMRAT BHATTACHARJEE REGARDING  
INVALIDITY OF U.S. PATENT NOS. 10,779,033 AND 9,967,615 AND OTHER ISSUES**

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Claim Term	Google Proposed Construction	Sonos Proposed Construction
instruction configures the at least one given playback device to"		
"playback device"	Plain and ordinary meaning	"Data network device configured to process and output audio"
"data network"	Plain and ordinary meaning	"a medium that interconnects devices, enabling them to send digital data packets to and receive digital data packets from each other"
"multimedia"	Plain and ordinary meaning	Plain and ordinary meaning, which is "any type of media that comprises audio (including audio alone)"
"cloud"	Plain and ordinary meaning	"over a network"

**B. "remote" playback queue**

86. I understand that Google contends that the plain meaning of "remote playback queue" is "a playback queue provided by a third-party application." I understand that Google has filed a Motion For Leave to File Supplemental Construction Brief in support of its position. Dkt 375.

87. I understand that Sonos disagrees and contends that the term "remote playback queue" covers a "playback queue" that is "in the cloud" (e.g., a cloud queue) regardless of whether it is provided by a third-party. See Dkt. No. 389 (Sonos Opposition to Google's Motion for Leave) at 7 (stating that the claims of the '033 patent are directed to playback queue "in the cloud and remote from the computing device.>"). I also understand that Sonos is reading the term "remote playback queue" so broadly as to encompass a list of recommended videos provided to a mobile device by a server in the cloud. See 3-25-2020 Sonos Infringement Contentions, Ex. B ('033

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Patent) at 10 (identifying the "remote playback queue" as "a 'Watch Next' queue" with "recommended videos" that is provided by "one or more cloud servers," such as "a 'Watch Next,' 'InnerTube,' or 'MDx' server").

88. I have reviewed the '033 patent and agree with Google's interpretation of the term "remote playback queue." In my opinion, a person of skill in the art reading the asserted claims of the '033 patent in the context of the entire patent, including the specification, would understand the "remote playback queue" is "a playback queue provided by a third-party application." A person of skill in the art would understand that the geographical location of the playback queue (*e.g.*, in the cloud) is not determinative of whether it is a "remote" playback queue, and would disagree that the items Sonos has identified in the accused YouTube applications is a "remote playback queue."

89. In any event, I understand that claims are to be interpreted and applied in the same way for both infringement and invalidity. As explained above, Sonos has applied the term "remote playback queue" term broadly for purposes of its infringement allegations to cover cloud queues and a list of recommended videos provided by a cloud server. Accordingly, I show in this report that at least under Sonos's understanding of the term "remote playback queue," including the principle that claims are to be interpreted and applied in the same way for both infringement and invalidity, the prior art invalidates the asserted claims.

## **VII. SONOS IS NOT ENTITLED TO A JULY 15, 2011 INVENTION DATE**

90. I understand that Google served at least two interrogatories-Interrogatory Nos. 1 and 2-seeking the basis for any contention by Sonos that it is entitled to an earlier invention and priority date. I have reviewed Sonos's Responses to Google's Interrogatory Nos. 1 and 2. *See* 11-08-2022 Sonos Fourth Supplemental Objection and Response to Google's First Set of Interrogatories. I understand that in its response to Google's interrogatories Sonos alleged that the Asserted Claims of the '033 patent are entitled to a conception date of July 15, 2011, and that the



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**A. The Asserted Claims Of The '033 Patent Are Obvious Variations Of Claim 13 Of The '615 Patent**

263. I understand that the Court has agreed with my prior opinion and held that Claim 13 of the '615 patent is both invalid in view of the YouTube Remote prior art and YouTube Remote patent. The Court's order supports my opinion that the asserted claims of the '033 patent are invalid because the differences in claim language between the asserted claims of the '033 patent and Claim 13 of the '615 patent relate to obvious variations of the invention in Claim 13 of the '615 patent.

264. For example, the table below shows the differences in claim language between Claim 13 of the '615 patent and a representative independent claim (Claim 12) of the '033 patent. The primary difference is that Claim 12 of the '033 patent recites a "remote playback queue" rather than the "local playback queue" recited in Claim 13 of the '615 patent. As I have mentioned above, **Sonos is reading the term "remote playback queue" to encompass a cloud queue** and a list of recommended videos provided by a cloud server. At least under Sonos's interpretation, the recitation of a "remote playback queue" rather than a "local playback queue" is an obvious variation. Indeed, I show in this report that Google's own prior art devices were able to transfer playback of both cloud queues and lists of recommended videos provided by a cloud server.

'033 Patent, Claim 12	'615 Patent, Claim 13
12.1 A non-transitory computer-readable medium having stored thereon program instructions that, when executed by at least one processor, cause a computing device to perform functions comprising:	Claim 13 of the '615 patent discloses substantially the same limitation: "A tangible, non-transitory computer readable storage medium including instructions for execution by a processor, the instructions, when executed, cause a control device to implement a method comprising." In particular, the "computing device" in the '033 patent is akin to the "control device" in the '615 patent.
12.2 operating in a first mode in which the computing device is configured for playback of a remote playback queue provided by a	Claim 13 of the '615 patent discloses substantially the same limitation.  For example, Claim 13 discloses a mode in which a "control device" (akin to the

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'033 Patent, Claim 12	'615 Patent, Claim 13
cloud-based computing system associated with a cloud-based media service;	<p>computing device) is configured for playback media on the control device. In particular, Claim 13 recites “causing a graphical interface to display a control interface including one or more transport controls to control playback by the control device.” In other words, the patent discloses that the control device is configured for playback and that it includes transport control to control that playback.</p> <p>Claim 13 does not expressly recite that its control device is configured for playback of a “remote playback queue provided by a cloud-based computing system associated with a cloud-based media service.” However, I understand that Sonos has interpreted this term as encompassing playback of a cloud queue or a list of recommended videos provided by a cloud server. <i>See</i> Section VI.B. At least under Sonos’s interpretation, the “remote playback queue” fails to distinguish the ’033 patent from the prior art. For instance, the prior art YTR application was able to playback a cloud-hosted “party queue” and a list of recommended videos provided by the cloud server on the mobile device. <i>See</i> YTR application, Limitation 1.4. Similarly, the Tungsten/NexusQ discloses the ability to playback a cloud-hosted album (e.g., AC/DC Back in Black) and a list of recommended videos provided by a cloud server on the mobile device (e.g., a MagicPalylist). <i>See</i> Tungsten/NexusQ, Limitation 1.4. Accordingly, the recitation of a remote playback queue does not distinguish the ’033 patent from the prior art.</p>
12.3 while operating in the first mode, displaying a representation of one or more playback devices in a media playback system that are each i) communicatively coupled to the computing device over a data network and ii)	<p>Claim 13 of the ’615 patent includes substantially the same limitation.</p> <p>For example, Claim 13 discloses that when playing back media on the control device, the control device may identify one or more playback device in the media playback system</p>

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<b>'033 Patent, Claim 12</b>	<b>'615 Patent, Claim 13</b>
available to accept playback responsibility for the remote playback queue;	<p>that are coupled to the control device over a data network (namely a local area network) and available to accept transfer of playback responsibility: “after connecting to a local area network via a network interface, identifying playback devices connected to the local area network.”</p> <p>Claim 13 also recites that the graphical interface of the control device displays a representation of the one or more playback devices that are identified: “causing the graphical interface to display a selectable option for transferring playback from the control device.”</p>
12.4 while displaying the representation of the one or more playback devices, receiving user input indicating a selection of at least one given playback device from the one or more playback devices;	<p>Claim 13 of the '615 patent includes substantially the same limitation.</p> <p>Claim 13 also discloses that the control device may receive a user input indicating a selection of a playback device: “detecting a set of inputs to transfer playback from the control device to a particular playback device, wherein the set of inputs comprises: (i) a selection of the selectable option for transferring playback from the control device and (ii) a selection of the particular playback device from the identified playback devices connected to the local area network.”</p>
12.5 based on receiving the user input, transmitting an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device, wherein the instruction configures the at least one given playback device to (i) communicate with the cloud-based computing system in order to obtain data identifying a next one or more media items that are in the remote playback queue, (ii) use the obtained data to	<p>Claim 13 of the '615 patent includes substantially the same limitation.</p> <p>For example, Claim 13 discloses “after detecting the set of inputs to transfer playback from the control device to the particular playback device, causing playback to be transferred from the control device to the particular playback device.” While Claim 13 does not expressly recite that “causing playback to be transferred from the control</p>

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'033 Patent, Claim 12	'615 Patent, Claim 13
<p>retrieve at least one media item in the remote playback queue from the cloud-based media service; and (iii) play back the retrieved at least one media item;</p>	<p>device to the particular playback device” includes sending “an instruction to cause playback to be transferred to the playback device,” a POSITA would have found it obvious to effect playback transfer by transmitting an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device. Indeed, a POSITA would understand that the playback device must receive an instruction to take over playback responsibility and that the instruction could be sent by the “computing device” or by some other device besides the computing device. Given the finite number of identified, predictable solutions, a POSITA would have found both options to be obvious.</p> <p>Claim 13 also teaches that receiving an instruction to transfer playback configured the playback device to communicate with a cloud-based computing system to retrieve data (e.g., resource locators) for playing back at least one media item: “wherein transferring playback from the control device to the particular playback device comprises: (a) causing one or more first cloud servers to add multimedia content to a local playback queue on the particular playback device, wherein adding the multimedia content to the local playback queue comprises the one or more first cloud servers adding, to the local playback queue, one or more resource locators corresponding to respective locations of the multimedia content at one or more second cloud servers of a streaming content service.”</p> <p>Claim 13 also recited that the retrieved data (e.g., resource locators) were used to retrieve at least one media item in the remote playback queue from the cloud based media service and to play back that retrieved media item: “wherein the particular playback device playing back the multimedia content comprises the particular playback device retrieving the multimedia content from one or more second</p>

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'033 Patent, Claim 12	'615 Patent, Claim 13
	<p>cloud servers of a streaming content service and playing back the retrieved multimedia content.”</p> <p>Claim 13 differs from the '033 patent in that it requires a “local playback queue,” rather a remote playback queue. I understand that Sonos has interpreted this limitation as being satisfied by playback of a cloud queue. At least under Sonos’s interpretation, the “remote playback queue” fails to distinguish the '033 patent from the prior art. For instance, the prior art YTR application was able to playback a cloud-hosted “party queue” and a list of recommended videos provided by the cloud server on the playback device. <i>See</i> YTR application, Limitation 1.7. Similarly, the Tungsten/NexusQ discloses the ability to playback a cloud-hosted album (e.g., AC/DC Back in Black) and a list of recommended videos provided by a cloud server on the playback device (e.g., a MagicPalylist). <i>See</i> Tungsten/NexusQ, Limitation 1.7. Accordingly, the recitation of a remote playback queue does not distinguish the '033 patent from the prior art.</p>
<p>12.6 detecting an indication that playback responsibility for the remote playback queue has been successfully transferred from the computing device to the at least one given playback device; and after detecting the indication, transitioning from i) the first mode in which the computing device is configured for playback of the remote playback queue to ii) a second mode in which the computing device is configured to control the at least one given playback device's playback of the remote playback queue and the computing device is no longer configured for playback of the remote playback queue.</p>	<p>Claim 13 of the '615 patent includes substantially the same limitation.</p> <p>For example, claim 13 recites that the control device stops playback of the media on the control device and the system transitions into a mode where the control device controls playback device of the media on the control device: “(b) causing playback at the control device to be stopped; and (c) modifying the one or more transport controls of the control interface to control playback by the playback device; and causing the particular playback device to play back the multimedia content, wherein the particular playback device playing back the multimedia content comprises the particular playback device retrieving the multimedia content from one or more second cloud servers of a streaming content service</p>

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'033 Patent, Claim 12	'615 Patent, Claim 13
	<p>and playing back the retrieved multimedia content.”</p> <p>While Claim 13 recites that transferring playback causes playback at the control device to stop and then modifies the transport control on the control device to control playback on the playback device, it does not expressly recite that this occurs after “detecting an indication that playback responsibility for the remote playback queue has been successfully transferred from the computing device to the at least one given playback device.” However, this distinction is trivial. A POSITA would understand that implementing the detection and updating of the transport controls can be sequenced or done concurrently, both of which were straightforward design choices. Indeed, sequencing the operation so that the detection occurs before the transport control changes was obvious to try because it involved choosing from a finite number of identified, predictable solutions—namely, (1) modifying the transport controls prior to receiving the claimed indication, (2) modifying the transport controls concurrently with the claimed indication, and (3) updating the transport controls after the claimed indication—with a reasonable expectation of success. Thus, it would have at least been obvious to sequence the operations such that it detects the claimed indication and then modifies the transport controls so that they control playback on the playback device.</p>

**B. The Asserted Claims Are Invalid Based On The YouTube Remote System Alone Or In View Of The YouTube Remote Patent**

265. In my opinion, the YouTube Remote ("YTR") system anticipates the asserted claims of the '033 patent. To the extent the YTR system alone is deemed not to anticipate the asserted claims, then the asserted claims are at least obvious based on the YTR system in view of one or more of the general knowledge of a POSITA and U.S. Patent No. 9,490,998 ("998 patent").



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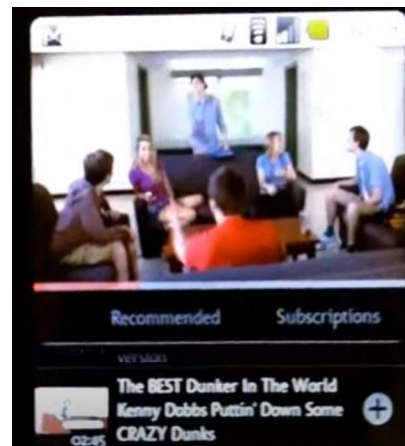
293. Initially, as I demonstrate later in this report, the written description of the '033 patent does not provide adequate support for this limitation. Thus, the disclosure of this limitation in the prior art exceeds what is provided in the written description.

294. I understand that this claim element includes one or more terms subject to construction by the Court. Specifically, I understand that the Court has construed the term "playlist queue" to mean "[a] list of multimedia content selected for playback."

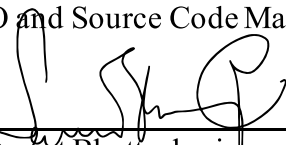
295. I further understand that the parties dispute the meaning of the term "remote playlist queue." I understand that Google contends that the term means "a playlist queue provided by a third-party application." However, I understand that Sonos disagrees with Google's interpretation and contends that the term encompasses a cloud queue or a list of recommended videos generated by a cloud server. See Section VI (Claim Construction). I agree with Google that a POSITA would understand the plain meaning of "remote playlist queue" in view of the specification to refer to a playlist queue provided by a third-party application.

296. In any event, I understand that claims are to be interpreted and applied in the same way for both infringement and invalidity. At least under Sonos's interpretation of the claims, the YouTube Remote system discloses and renders obvious this limitation.

297. Google's YouTube Remote system allowed a user to operate in a standalone mode (first mode) in which the computing device (smartphone or tablet) was configured to playback videos locally on the computing device. For example, the image on the right from **Video #1** shows the user interface of the YTR application when a user is playing a video on his phone. A user of the YTR application could also rotate the phone, in



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